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Marvell Expands 5G Technology Leadership with End-to-End Open RAN and Virtualized RAN Platform Solutions

Introduces Carrier-Proven Technology for O-RAN Massive MIMO Radio Units, Distributed Units and Centralized Units

SANTA CLARA, Calif., Dec. 8, 2020 /PRNewswire/ -- Marvell (Nasdaq: MRVL) today introduced its 5G O-RAN portfolio with the launch of its open radio access network (open RAN) and virtualized radio access network (vRAN) platform solutions. With Open Ran Alliance compliance, Marvell's O-RAN platform solution brings established, leading-edge DPU and connectivity technology to the emerging open RAN and vRAN markets. Marvell's OCTEON Fusion® baseband processors, OCTEON® multi-core DPUs and Prestera® switches have enabled leading telecom original equipment manufacturers (OEMs) to successfully deploy hundreds of radio networks worldwide.

Open RAN architectures provide operators with a choice of infrastructure supplier options for RAN components and increased flexibility. Open RAN implementations have moved beyond lab trials and greenfield deployments to mainstream mobile and private networks. Most

implementations have relied on FPGA or GPU-based PHY layer acceleration with associated cost and power compromises. Marvell's O-RAN platform now provides a purpose-built, cloud native, highly programmable solution to address capacity, power, cost and time-to-market challenges presented by current architectures.

"Marvell's O-RAN Platform leverages our industry-leading baseband DPU, switch and Ethernet products. The Platform provides our customers with high-performance, low-power and programmable solutions that offer a seamless path to commercial 5G open RAN and vRAN market segments," said Raj Singh, Executive Vice President and General Manager of Marvell's Processor Business Group. "Our cost-effective, purpose-built yet flexible O-RAN Platform helps power the transition to O-RAN enabled commercial 5G, while optimizing for OPEX and CAPEX."

Marvell's O-RAN platform includes the industry-leading OCTEON Fusion baseband processor family that is currently shipping in volume to tier 1 OEMs. Marvell's newly announced OCTEON Fusion-O™ processors maintain the full capabilities of the OCTEON Fusion family including 15 Gbps capacity and support for 200MHz channelization, while adding specific O-RAN functions such as eCPRI compression/decompression and split 7.2 interfaces with integrated fronthaul. Additionally, the platform includes key reference software, allowing OEMs, ODMs and network operators to rapidly bring O-RAN compatible products to market.

Marvell O-RAN Platform

The Marvell O-RAN platform solution consists of silicon, software and hardware reference designs spanning the radio unit (RU), distributed unit (DU) and centralized unit (CU) with Ethernet connectivity between these network elements.

mMIMO RU

A 32T32R, 8 DL layer, 100MHz channel radio unit.

- Hardware reference design in partnership with Analog Devices
- Reference lower L1 and beamforming software
- O-RAN management plane software
- O-RAN fronthaul interface
- Analog Devices Transceivers and DFE software

vDU and DU

The OCTEON Fusion-O DU hardware reference designs are available as either a virtualized DU (vDU) PCIe-based offload accelerator or an integrated DU.

- Dual mode 5G and LTE
- Integrated fronthaul for 7.2 split
- 16DL/8UL layer support
- Reference LTE and 5G L1 software

CU

In addition to support for vDU server configurations, the Marvell O-RAN platform also provides support for our industry-leading L2/L3 OCTEON processors supporting a fully integrated standalone CU implementation.

- Dedicated L2/L3 silicon
- Virtualized L2/L3 support
- Partnership protocol stack ports from industry leaders

As an acknowledged leader in Ethernet connectivity solutions, Marvell's O-RAN Platform includes the latest generation of carrier Ethernet switches, the Prestera DX 7300 Ethernet switch family. It offers best-in-class telemetry, scalability, performance, power and cost.

"The future of mobile networks will require a robust ecosystem of software, silicon and system partners dedicated to modular and open networks to drive industrial and carrier networks," said Rob Soni, Head of Architecture and Technology, Nokia Bell Labs. "We are happy to see Marvell's support for open interfaces, which will enable greater flexibility and innovation in the deployment of O-RAN based solutions and introduce further opportunities for wider ecosystem involvement in wireless networks."

"Mavenir applauds Marvell's decision to extend the availability of their proven 5G and LTE baseband technology to the open RAN community," said Pardeep Kohli, President and CEO, Mavenir. "Mavenir is looking forward to joining Marvell in promoting Open RAN Platforms to telecom integrators and network operators worldwide."

"Marvell has long been a leading supplier of RAN technology to telecom OEMs. It absolutely makes sense to bring this expertise to the open RAN segment of the market in providing a complete end-to-end solution including a massive MIMO 32T32R radio reference design," said Earl J. Lum, President of EJL Wireless Research. "Whether open RAN or traditional integrated RAN, the processing requirements don't change, it's just a matter of where that processing occurs as the RAN becomes disaggregated, virtualized and more open. Open RAN OEMs, integrators and operators should benefit from Marvell's O-RAN Platform."

Marvell's O-RAN platform development kits will be available in Q1 2021.

Read more about the new industry-leading O-RAN platform here.

About Marvell

To deliver the data infrastructure technology that connects the world, we're building solutions on the most powerful foundation: our partnerships with our customers. Trusted by the world's leading technology companies for 25 years, we move, store, process and secure the world's data with semiconductor solutions designed for our customers' current needs and future ambitions. Through a process of deep collaboration and transparency, we're ultimately changing the way tomorrow's enterprise, cloud, automotive, and carrier architectures transform—for the better.

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